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Meteorological Tables for Determination of Precipitable Water, Temperatures and Pressures Aloft for a Saturated Pseudoadiabatic Atmosphere—in the Metric System

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METEOROLOGICAL TABLES FOR DETERMINATION OF PRECIPITABLE WATER, TEMPERATURES, AND PRESSURES ALOFT FOR A SATURATED PSEUDOADIABATIC ATMOSPHERE - IN THE METRIC SYSTEM

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The junior authors regret the untimely death of Captain W. O. Eihle who had just completed the computations in their final form. His contribution is gratefully acknowledged.

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LIST OF SYMBOLS

c_p	specific heat at constant pressure (cal/gm deg)
e	vapor pressure (mb)
e_s	saturation vapor pressure (mb)
g	gravitational acceleration (cm/sec^2)
L	latent heat of vaporization (cal)
p	atmospheric pressure (mb)
q	specific humidity (gm/gm)
R_D	gas constant for dry air (cal/gm deg)
T	temperature of the ambient air (°K)
T*	virtual temperature (°K)
T_c	temperature of the ambient air (°C)
w	mixing ratio (gm/gm)
W_p	precipitable water (mm)
w_s	saturation mixing ratio (gm/gm)
z	height (m)
ρ	density of the ambient air (gm/cm^3)
ρ_a	density of the dry air (gm/cm^3)
ρ_v	density of water vapor in the atmosphere (gm/cm^3)

INTRODUCTION

The hydrometeorologist is often confronted with the problem of determination of precipitable water in the atmosphere based on surface dewpoints and the assumption of a saturated atmosphere with a pseudo-adiabatic lapse rate. Tables have been prepared previously in the English system (Hydrometeorological Section, 1951). The application of these tables to meteorological data which is collected in the Metric system requires numerous unnecessary conversions which can lead to errors. The following tables have been prepared to facilitate these computations in the Metric system.

Because of the computational technique employed, temperatures aloft for selected heights in degrees Celsius were obtained also. These data often prove useful in the computation of snowmelt over mountainous basins where the temperatures range considerably with elevation. Additionally, information on atmospheric pressure in millibars for selected heights was obtained. Thermodynamic considerations in the computational scheme are discussed below.

THERMODYNAMIC CONSIDERATIONS

Precipitable water is defined as the amount of liquid water that would form in an air column of unit cross-section if all the water vapor in it were condensed. Although natural processes normally do not precipitate the entire water vapor content of a layer of air, the concept of precipitable water does provide an upper limit from which meteorological decisions can be made.

The amount of precipitable water, W_p, may be expressed as:

$$W_p = \int_{z_o}^{z} \rho_v dz \ , \qquad (1)$$

where dz is an element of height, ρ_v is the vapor density of the moist air, and z_o and z are height limits of the column of air.

Except for periods of intense local convection, e.g., during thunderstorms, the atmosphere is very nearly in a state of hydrostatic equilibrium. Thus, a unique relationship between incremental height dz and incremental pressure dp can be written:

$$dp = -\rho g dz \ , \qquad (2)$$

where g is the acceleration of gravity and ρ is the total density of the air. ρ is, of course, equal to the sum of ρ_v and ρ_a, and ρ_a is the density of the dry air. If we define specific humidity, q, as

$$q = \frac{\rho_v}{\rho} \ , \qquad (3)$$

we can utilize Equations (2) and (3) to write

$$W_p = \frac{1}{g} \int_{p}^{p_o} q dp \approx \frac{1}{g}(p_o - p)\ \bar{q} \ , \qquad (4)$$

where p and p_o are pressures at the top and bottom of the layer. The bar over q signifies the mean value.

Specific humidity and mixing ratio, w, are related by the relationship:

$$q = \frac{w}{1+w} \quad . \tag{5}$$

Since w is seldom greater than 0.02 gm/gm, it can be seen that

$$q \approx w \quad . \tag{6}$$

Based on the equation of state, the following equation can be written for the mixing ratio, i.e.,

$$w = 0.622 \frac{e}{p-e} \quad , \tag{7}$$

where e is the observed vapor pressure. In a saturated atmosphere, e equals e_s, which is the saturation vapor pressure.

With substitution of w for q, Equation (4) can be written in the finite form:

$$W_p = \frac{1}{g} \Sigma \bar{w} \Delta p \quad . \tag{8}$$

Expressed in millimeters, W_p becomes for a finite layer of depth Δp,

$$W_p = 10.16 \bar{w} \Delta p \quad . \tag{9}$$

Equation (9) was the basic equation used in determination of precipitable water values. The thickness of each layer was arbitrarily extablished as 50 m.

The Goff-Gratch (List, 1966) expression was used to compute the saturation vapor pressure, which was used in the determination of w;

$$e_s = 10^x \quad , \tag{10}$$

where

$$x = -7.90298\ (373.16/T)-1 \qquad (11)$$
$$+5.02808\ \log_{10}\ (373.16/T)$$
$$-1.3816 \cdot 10^{-7}\ \ 10^{11.344(1-T373.16)_{-1}}$$
$$+8.1328 \cdot 10^{-3}\ \ 10^{-3.49149[(373.16/T)-1]_{-1}}$$
$$+\log_{10}1013.246$$

The variation of pressure with elevation can be obtained through substitution of the equation of state,

$$p = \rho R_D T^* \quad , \qquad (12)$$

into the hydrostatic equation

$$dp = -\frac{p\,dz}{R_D \overline{T}^*} \quad , \qquad (13)$$

where $\overline{T}^*$ is the mean virtual temperature for the layer dz. $\overline{T}^*$ was approximated by

$$\overline{T}^* = \overline{T}\ \frac{1+1.609\ w_s}{1+w_s} \Big/ \quad . \qquad (14)$$

$\overline{T}$ is the mean temperature for the layer in degrees Kelvin and w_s is the saturation mixing ratio in gm/gm. R_D in Equation (12) is the gas constant for dry air.

The variation of temperature with elevation in a saturated atmosphere is given by

$$\frac{dT}{dz} = -\frac{g}{c_p}\left[\frac{1 + \frac{L}{R_D}\frac{w_s}{T}}{1 + \frac{0.622\ L^2 w_s}{c_p R_D T^2}}\right] , \qquad (15)$$

where c_p is the specific heat at constant pressure, and L is the latent heat for a given temperature. L was computed from

$$L = 597.3 - 0.56\ T_c \quad , \qquad (16)$$

where T_c is the temperature in degrees Celsius.

EXAMPLES

Example A: If the sea-level dewpoint temperature is 20°C and the air is saturated with a pseudoadiabatic lapse rate, the air will hold 42.1 mm of precipitable water between sea level and 4000 m (Table 1). The temperature and pressure at 4000 m will be 0.9°C and 620.3 mb, respectively (Tables 2 and 3). The values in Table 1 are, of course, cumulative. If the precipitable water is required between 2000 m and 4000 m for the same condition, the incremental value will be 42.1 - 27.2 = 14.9 mm, since the precipitable water between sea level and 2000 m is 27.2 mm.

Example B: Let us assume that the temperature at 3000 m is 2°C and that the atmosphere is saturated with a pseudoadiabatic lapse rate. The sea-level temperature will be 17°C (Table 2). From Table 3 we can determine the pressure at 3000 m to be 697.8 mb. Precipitable water between sea level and 3000 m, based on a sea-level temperature of 17°C, is 28.9 mm (Table 1). Between 3000 m and 15,000 m the total precipitable water will be 40.4 - 28.9 = 11.5 mm, since the total precipitable water between sea level and 15,000 m is 40.4 mm.

REFERENCES

1. Hydrometeorological Section, Weather Bureau, "Tables of Precipitable Water and Other Factors for a Saturated Pseudo-Adiabatic Atmosphere," Weather Bureau Technical Paper No. 14, Washington, D.C., 1951.

2. List, Robert J., Smithsonian Meteorological Tables, Sixth Revised Edition, Smithsonian Institution, Washington, D.C., 1966.

Table 1

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB						
	5	6	7	8	9	10	11
50	0.3	0.4	0.4	0.4	0.4	0.5	0.5
100	0.7	0.7	0.8	0.8	0.9	0.9	1.0
150	1.0	1.1	1.1	1.2	1.3	1.4	1.5
200	1.3	1.4	1.5	1.6	1.7	1.8	1.9
250	1.6	1.7	1.9	2.0	2.1	2.3	2.4
300	1.9	2.1	2.2	2.4	2.5	2.7	2.9
350	2.2	2.4	2.6	2.7	2.9	3.1	3.3
400	2.5	2.7	2.9	3.1	3.3	3.5	3.8
450	2.8	3.0	3.2	3.4	3.7	3.9	4.2
500	3.1	3.3	3.5	3.8	4.1	4.3	4.6
550	3.4	3.6	3.9	4.1	4.4	4.7	5.1
600	3.6	3.9	4.2	4.5	4.8	5.1	5.5
650	3.9	4.2	4.5	4.8	5.1	5.5	5.9
700	4.2	4.5	4.8	5.1	5.5	5.9	6.3
750	4.4	4.7	5.1	5.4	5.8	6.2	6.7
800	4.7	5.0	5.4	5.7	6.2	6.6	7.1
850	4.9	5.3	5.6	6.1	6.5	6.9	7.4
900	5.1	5.5	5.9	6.4	6.8	7.3	7.8
950	5.4	5.8	6.2	6.6	7.1	7.6	8.2
1000	5.6	6.0	6.5	6.9	7.4	8.0	8.5
1050	5.8	6.3	6.7	7.2	7.7	8.3	8.9
1100	6.0	6.5	7.0	7.5	8.0	8.6	9.2
1150	6.2	6.7	7.2	7.8	8.3	8.9	9.6
1200	6.5	6.9	7.5	8.0	8.6	9.2	9.9
1250	6.7	7.2	7.7	8.3	8.9	9.5	10.2
1300	6.9	7.4	7.9	8.5	9.2	9.8	10.6
1350	7.0	7.6	8.2	8.8	9.4	10.1	10.9
1400	7.2	7.8	8.4	9.0	9.7	10.4	11.2
1450	7.4	8.0	8.6	9.3	10.0	10.7	11.5
1500	7.6	8.2	8.8	9.5	10.2	11.0	11.8
1600	8.0	8.6	9.2	9.9	10.7	11.5	12.4
1700	8.3	8.9	9.6	10.4	11.2	12.0	12.9
1800	8.6	9.3	10.0	10.8	11.6	12.5	13.4
1900	8.9	9.6	10.4	11.2	12.0	13.0	14.0
2000	9.2	9.9	10.7	11.6	12.5	13.4	14.4
2100	9.5	10.2	11.0	11.9	12.8	13.8	14.9
2200	9.7	10.5	11.3	12.3	13.2	14.3	15.4
2300	10.0	10.8	11.6	12.6	13.6	14.7	15.8
2400	10.2	11.0	11.9	12.9	13.9	15.0	16.2
2500	10.4	11.3	12.2	13.2	14.3	15.4	16.6
2600	10.6	11.5	12.5	13.5	14.6	15.7	17.0
2700	10.8	11.7	12.7	13.7	14.9	16.1	17.4
2800	11.0	11.9	12.9	14.0	15.1	16.4	17.7
2900	11.2	12.1	13.1	14.2	15.4	16.7	18.0
3000	11.3	12.3	13.3	14.5	15.7	17.0	18.3
3250	11.7	12.7	13.8	15.0	16.3	17.6	19.1
3500	12.0	13.1	14.2	15.4	16.8	18.2	19.7
3750	12.3	13.4	14.6	15.8	17.2	18.7	20.3
4000	12.5	13.7	14.9	16.2	17.6	19.1	20.8

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB						
	5	6	7	8	9	10	11
4250	12.7	13.9	15.1	16.5	17.9	19.5	21.2
4500	12.9	14.1	15.3	16.7	18.2	19.8	21.6
4750	13.0	14.2	15.5	16.9	18.5	20.1	21.9
5000	13.1	14.3	15.7	17.1	18.7	20.3	22.2
5250	13.2	14.5	15.8	17.2	18.8	20.5	22.4
5500	13.3	14.5	15.9	17.4	19.0	20.7	22.6
5750	13.4	14.6	16.0	17.5	19.1	20.9	22.8
6000	13.4	14.7	16.0	17.6	19.2	21.0	22.9
6250	13.4	14.7	16.1	17.6	19.3	21.1	23.0
6500	13.5	14.7	16.1	17.7	19.3	21.1	23.1
6750	13.5	14.8	16.2	17.7	19.4	21.2	23.2
7000	13.5	14.8	16.2	17.7	19.4	21.3	23.3
7250	13.5	14.8	16.2	17.8	19.5	21.3	23.3
7500	13.5	14.8	16.2	17.8	19.5	21.3	23.4
7750	13.5	14.8	16.3	17.8	19.5	21.4	23.4
8000	13.5	14.8	16.3	17.8	19.5	21.4	23.4
8250	13.6	14.9	16.3	17.8	19.5	21.4	23.4
8500	13.6	14.9	16.3	17.8	19.5	21.4	23.4
8750	13.6	14.9	16.3	17.8	19.6	21.4	23.5
9000	13.6	14.9	16.3	17.8	19.6	21.4	23.5
9250	13.6	14.9	16.3	17.9	19.6	21.4	23.5
9500	13.6	14.9	16.3	17.9	19.6	21.4	23.5
9750	13.6	14.9	16.3	17.9	19.6	21.4	23.5
10000	13.6	14.9	16.3	17.9	19.6	21.4	23.5
10250	13.6	14.9	16.3	17.9	19.6	21.4	23.5
10500	13.6	14.9	16.3	17.9	19.6	21.4	23.5
10750	13.6	14.9	16.3	17.9	19.6	21.4	23.5
11000	13.6	14.9	16.3	17.9	19.6	21.4	23.5
11250	13.6	14.9	16.3	17.9	19.6	21.4	23.5
11500	13.6	14.9	16.3	17.9	19.6	21.4	23.5
11750	13.6	14.9	16.3	17.9	19.6	21.4	23.5
12000	13.6	14.9	16.3	17.9	19.6	21.4	23.5
12250	13.6	14.9	16.3	17.9	19.6	21.4	23.5
12500	13.6	14.9	16.3	17.9	19.6	21.4	23.5
12750	13.6	14.9	16.3	17.9	19.6	21.4	23.5
13000	13.6	14.9	16.3	17.9	19.6	21.4	23.5
13250	13.6	14.9	16.3	17.9	19.6	21.4	23.5
13500	13.6	14.9	16.3	17.9	19.6	21.4	23.5
13750	13.6	14.9	16.3	17.9	19.6	21.4	23.5
14000	13.6	14.9	16.3	17.9	19.6	21.4	23.5
14250	13.6	14.9	16.3	17.9	19.6	21.4	23.5
14500	13.6	14.9	16.3	17.9	19.6	21.4	23.5
14750	13.6	14.9	16.3	17.9	19.6	21.4	23.5
15000	13.6	14.9	16.3	17.9	19.6	21.4	23.5

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB						
	12	13	14	15	16	17	18
50	0.5	0.6	0.6	0.6	0.7	0.7	0.8
100	1.1	1.1	1.2	1.3	1.4	1.4	1.5
150	1.6	1.7	1.8	1.9	2.0	2.2	2.3
200	2.1	2.2	2.4	2.5	2.7	2.8	3.0
250	2.6	2.7	2.9	3.1	3.3	3.5	3.8
300	3.1	3.3	3.5	3.7	4.0	4.2	4.5
350	3.6	3.8	4.0	4.3	4.6	4.9	5.2
400	4.0	4.3	4.6	4.9	5.2	5.5	5.9
450	4.5	4.8	5.1	5.5	5.8	6.2	6.6
500	5.0	5.3	5.6	6.0	6.4	6.8	7.3
550	5.4	5.8	6.2	6.6	7.0	7.5	7.9
600	5.8	6.2	6.7	7.1	7.6	8.1	8.6
650	6.3	6.7	7.2	7.6	8.2	8.7	9.3
700	6.7	7.2	7.7	8.2	8.7	9.3	9.9
750	7.1	7.6	8.1	8.7	9.3	9.9	10.5
800	7.5	8.1	8.6	9.2	9.8	10.5	11.2
850	8.0	8.5	9.1	9.7	10.4	11.1	11.8
900	8.4	8.9	9.6	10.2	10.9	11.6	12.4
950	8.7	9.4	10.0	10.7	11.4	12.2	13.0
1000	9.1	9.8	10.5	11.2	11.9	12.7	13.6
1050	9.5	10.2	10.9	11.6	12.4	13.3	14.2
1100	9.9	10.6	11.3	12.1	12.9	13.8	14.7
1150	10.3	11.0	11.7	12.6	13.4	14.3	15.3
1200	10.6	11.4	12.2	13.0	13.9	14.9	15.9
1250	11.0	11.7	12.6	13.5	14.4	15.4	16.4
1300	11.3	12.1	13.0	13.9	14.9	15.9	17.0
1350	11.7	12.5	13.4	14.3	15.3	16.4	17.5
1400	12.0	12.8	13.8	14.7	15.8	16.9	18.0
1450	12.3	13.2	14.1	15.1	16.2	17.3	18.5
1500	12.6	13.6	14.5	15.6	16.7	17.8	19.0
1600	13.3	14.2	15.3	16.3	17.5	18.7	20.0
1700	13.9	14.9	16.0	17.1	18.3	19.6	21.0
1800	14.4	15.5	16.6	17.9	19.1	20.5	21.9
1900	15.0	16.1	17.3	18.6	19.9	21.3	22.8
2000	15.5	16.7	17.9	19.3	20.7	22.1	23.7
2100	16.1	17.3	18.6	19.9	21.4	22.9	24.6
2200	16.5	17.8	19.1	20.6	22.1	23.7	25.4
2300	17.0	18.3	19.7	21.2	22.7	24.4	26.2
2400	17.5	18.8	20.2	21.8	23.4	25.1	27.0
2500	17.9	19.3	20.8	22.3	24.0	25.8	27.7
2600	18.3	19.8	21.3	22.9	24.6	26.5	28.4
2700	18.7	20.2	21.8	23.4	25.2	27.1	29.1
2800	19.1	20.6	22.2	23.9	25.8	27.7	29.8
2900	19.5	21.0	22.7	24.4	26.3	28.3	30.4
3000	19.8	21.4	23.1	24.9	26.8	28.9	31.1
3250	20.6	22.3	24.1	26.0	28.0	30.2	32.5
3500	21.3	23.1	25.0	27.0	29.1	31.4	33.9
3750	22.0	23.8	25.8	27.9	30.1	32.5	35.1
4000	22.5	24.4	26.5	28.7	31.0	33.5	36.2

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB						
	12	13	14	15	16	17	18
4250	23.0	25.0	27.1	29.4	31.8	34.4	37.2
4500	23.5	25.5	27.7	30.0	32.5	35.2	38.1
4750	23.8	25.9	28.1	30.6	33.1	35.9	38.9
5000	24.1	26.3	28.6	31.0	33.7	36.6	39.6
5250	24.4	26.6	28.9	31.5	34.2	37.1	40.3
5500	24.7	26.9	29.3	31.8	34.6	37.6	40.8
5750	24.9	27.1	29.5	32.2	35.0	38.0	41.3
6000	25.0	27.3	29.8	32.4	35.3	38.4	41.8
6250	25.2	27.5	30.0	32.7	35.6	38.8	42.2
6500	25.3	27.6	30.1	32.9	35.8	39.0	42.5
6750	25.4	27.7	30.3	33.0	36.0	39.3	42.8
7000	25.4	27.8	30.4	33.2	36.2	39.5	43.0
7250	25.5	27.9	30.5	33.3	36.4	39.7	43.2
7500	25.6	28.0	30.6	33.4	36.5	39.8	43.4
7750	25.6	28.0	30.6	33.5	36.6	39.9	43.6
8000	25.6	28.0	30.7	33.5	36.7	40.0	43.7
8250	25.7	28.1	30.7	33.6	36.7	40.1	43.8
8500	25.7	28.1	30.7	33.6	36.8	40.2	43.9
8750	25.7	28.1	30.8	33.7	36.8	40.2	44.0
9000	25.7	28.1	30.8	33.7	36.9	40.3	44.0
9250	25.7	28.1	30.8	33.7	36.9	40.3	44.1
9500	25.7	28.2	30.8	33.7	36.9	40.4	44.1
9750	25.7	28.2	30.8	33.7	36.9	40.4	44.1
10000	25.7	28.2	30.8	33.8	36.9	40.4	44.2
10250	25.7	28.2	30.8	33.8	36.9	40.4	44.2
10500	25.7	28.2	30.8	33.8	36.9	40.4	44.2
10750	25.7	28.2	30.8	33.8	37.0	40.4	44.2
11000	25.7	28.2	30.9	33.8	37.0	40.4	44.2
11250	25.7	28.2	30.9	33.8	37.0	40.4	44.2
11500	25.7	28.2	30.9	33.8	37.0	40.4	44.2
11750	25.7	28.2	30.9	33.8	37.0	40.4	44.2
12000	25.7	28.2	30.9	33.8	37.0	40.4	44.2
12250	25.7	28.2	30.9	33.8	37.0	40.4	44.2
12500	25.7	28.2	30.9	33.8	37.0	40.4	44.2
12750	25.7	28.2	30.9	33.8	37.0	40.4	44.2
13000	25.7	28.2	30.9	33.8	37.0	40.4	44.2
13250	25.7	28.2	30.9	33.8	37.0	40.4	44.2
13500	25.7	28.2	30.9	33.8	37.0	40.4	44.2
13750	25.7	28.2	30.9	33.8	37.0	40.4	44.2
14000	25.7	28.2	30.9	33.8	37.0	40.4	44.2
14250	25.7	28.2	30.9	33.8	37.0	40.4	44.2
14500	25.7	28.2	30.9	33.8	37.0	40.4	44.2
14750	25.7	28.2	30.9	33.8	37.0	40.4	44.2
15000	25.7	28.2	30.9	33.8	37.0	40.4	44.2

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB						
	19	20	21	22	23	24	25
50	0.8	0.9	0.9	1.0	1.0	1.1	1.2
100	1.6	1.7	1.8	2.0	2.1	2.2	2.3
150	2.4	2.6	2.7	2.9	3.1	3.3	3.5
200	3.2	3.4	3.6	3.9	4.1	4.3	4.6
250	4.0	4.2	4.5	4.8	5.1	5.4	5.7
300	4.8	5.1	5.4	5.7	6.1	6.4	6.8
350	5.5	5.9	6.2	6.6	7.0	7.5	7.9
400	6.3	6.7	7.1	7.5	8.0	8.5	9.0
450	7.0	7.5	7.9	8.4	8.9	9.5	10.1
500	7.7	8.2	8.7	9.3	9.9	10.5	11.1
550	8.5	9.0	9.6	10.2	10.8	11.5	12.2
600	9.2	9.7	10.4	11.0	11.7	12.4	13.2
650	9.9	10.5	11.2	11.9	12.6	13.4	14.2
700	10.5	11.2	11.9	12.7	13.5	14.3	15.2
750	11.2	12.0	12.7	13.5	14.4	15.3	16.2
800	11.9	12.7	13.5	14.3	15.3	16.2	17.2
850	12.6	13.4	14.2	15.2	16.1	17.1	18.2
900	13.2	14.1	15.0	15.9	17.0	18.0	19.2
950	13.9	14.8	15.7	16.7	17.8	18.9	20.1
1000	14.5	15.4	16.4	17.5	18.6	19.8	21.1
1050	15.1	16.1	17.2	18.3	19.4	20.7	22.0
1100	15.7	16.8	17.9	19.0	20.2	21.5	22.9
1150	16.3	17.4	18.6	19.8	21.0	22.4	23.8
1200	16.9	18.1	19.2	20.5	21.8	23.2	24.7
1250	17.5	18.7	19.9	21.2	22.6	24.1	25.6
1300	18.1	19.3	20.6	21.9	23.4	24.9	26.5
1350	18.7	19.9	21.2	22.6	24.1	25.7	27.3
1400	19.2	20.5	21.9	23.3	24.9	26.5	28.2
1450	19.8	21.1	22.5	24.0	25.6	27.3	29.0
1500	20.3	21.7	23.2	24.7	26.3	28.1	29.9
1600	21.4	22.9	24.4	26.0	27.8	29.6	31.5
1700	22.5	24.0	25.6	27.3	29.2	31.1	33.1
1800	23.5	25.1	26.8	28.6	30.5	32.5	34.7
1900	24.4	26.1	27.9	29.8	31.8	33.9	36.2
2000	25.4	27.2	29.0	31.0	33.1	35.3	37.7
2100	26.3	28.1	30.1	32.2	34.4	36.7	39.1
2200	27.2	29.1	31.1	33.3	35.6	38.0	40.5
2300	28.1	30.0	32.2	34.4	36.7	39.2	41.9
2400	28.9	31.0	33.1	35.5	37.9	40.5	43.2
2500	29.7	31.8	34.1	36.5	39.0	41.7	44.5
2600	30.5	32.7	35.0	37.5	40.1	42.9	45.8
2700	31.2	33.5	35.9	38.5	41.2	44.0	47.0
2800	32.0	34.3	36.8	39.4	42.2	45.1	48.2
2900	32.7	35.1	37.6	40.3	43.2	46.2	49.4
3000	33.4	35.8	38.4	41.2	44.1	47.3	50.5
3250	35.0	37.6	40.4	43.3	46.4	49.8	53.3
3500	36.5	39.2	42.2	45.3	48.6	52.1	55.8
3750	37.8	40.7	43.8	47.1	50.6	54.2	58.2
4000	39.0	42.1	45.3	48.7	52.4	56.2	60.4

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB						
	19	20	21	22	23	24	25
4250	40.1	43.3	46.7	50.3	54.1	58.1	62.4
4500	41.2	44.4	47.9	51.6	55.6	59.8	64.3
4750	42.1	45.5	49.1	52.9	57.0	61.4	66.0
5000	42.9	46.4	50.1	54.1	58.3	62.8	67.6
5250	43.6	47.2	51.1	55.2	59.5	64.2	69.1
5500	44.3	48.0	51.9	56.1	60.6	65.4	70.5
5750	44.8	48.6	52.7	57.0	61.6	66.5	71.8
6000	45.4	49.2	53.4	57.8	62.5	67.5	72.9
6250	45.8	49.7	54.0	58.5	63.3	68.5	73.9
6500	46.2	50.2	54.5	59.1	64.0	69.3	74.9
6750	46.6	50.6	55.0	59.7	64.7	70.0	75.8
7000	46.9	51.0	55.4	60.2	65.3	70.7	76.6
7250	47.1	51.3	55.8	60.6	65.8	71.3	77.3
7500	47.3	51.6	56.1	61.0	66.2	71.9	77.9
7750	47.5	51.8	56.4	61.3	66.6	72.4	78.5
8000	47.7	52.0	56.6	61.6	67.0	72.8	79.0
8250	47.8	52.1	56.8	61.9	67.3	73.2	79.4
8500	47.9	52.3	57.0	62.1	67.6	73.5	79.8
8750	48.0	52.4	57.2	62.3	67.8	73.8	80.2
9000	48.1	52.5	57.3	62.4	68.0	74.0	80.5
9250	48.2	52.6	57.4	62.6	68.2	74.2	80.7
9500	48.2	52.6	57.5	62.7	68.3	74.4	81.0
9750	48.2	52.7	57.5	62.8	68.4	74.6	81.2
10000	48.3	52.7	57.6	62.9	68.5	74.7	81.3
10250	48.3	52.8	57.6	62.9	68.6	74.8	81.5
10500	48.3	52.8	57.7	63.0	68.7	74.9	81.6
10750	48.3	52.8	57.7	63.0	68.8	75.0	81.7
11000	48.4	52.8	57.7	63.0	68.8	75.0	81.8
11250	48.4	52.9	57.7	63.1	68.8	75.1	81.9
11500	48.4	52.9	57.8	63.1	68.9	75.1	81.9
11750	48.4	52.9	57.8	63.1	68.9	75.2	82.0
12000	48.4	52.9	57.8	63.1	68.9	75.2	82.0
12250	48.4	52.9	57.8	63.1	68.9	75.2	82.0
12500	48.4	52.9	57.8	63.1	68.9	75.2	82.1
12750	48.4	52.9	57.8	63.1	68.9	75.2	82.1
13000	48.4	52.9	57.8	63.1	68.9	75.2	82.1
13250	48.4	52.9	57.8	63.1	68.9	75.3	82.1
13500	48.4	52.9	57.8	63.1	68.9	75.3	82.1
13750	48.4	52.9	57.8	63.1	69.0	75.3	82.1
14000	48.4	52.9	57.8	63.1	69.0	75.3	82.1
14250	48.4	52.9	57.8	63.1	69.0	75.3	82.1
14500	48.4	52.9	57.8	63.1	69.0	75.3	82.1
14750	48.4	52.9	57.8	63.1	69.0	75.3	82.1
15000	48.4	52.9	57.8	63.1	69.0	75.3	82.1

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB				
	26	27	28	29	30
50	1.2	1.3	1.4	1.5	1.6
100	2.5	2.6	2.8	2.9	3.1
150	3.7	3.9	4.1	4.4	4.6
200	4.9	5.2	5.5	5.8	6.1
250	6.1	6.4	6.8	7.2	7.6
300	7.2	7.7	8.1	8.6	9.1
350	8.4	8.9	9.4	10.0	10.6
400	9.6	10.1	10.7	11.4	12.0
450	10.7	11.3	12.0	12.7	13.5
500	11.8	12.5	13.3	14.1	14.9
550	12.9	13.7	14.5	15.4	16.3
600	14.0	14.9	15.8	16.7	17.7
650	15.1	16.0	17.0	18.0	19.1
700	16.2	17.2	18.2	19.3	20.5
750	17.2	18.3	19.4	20.6	21.8
800	18.3	19.4	20.6	21.8	23.2
850	19.3	20.5	21.8	23.1	24.5
900	20.4	21.6	22.9	24.3	25.8
950	21.4	22.7	24.1	25.5	27.1
1000	22.4	23.8	25.2	26.8	28.4
1050	23.4	24.8	26.3	28.0	29.6
1100	24.3	25.9	27.5	29.1	30.9
1150	25.3	26.9	28.6	30.3	32.2
1200	26.3	27.9	29.6	31.5	33.4
1250	27.2	28.9	30.7	32.6	34.6
1300	28.1	29.9	31.8	33.7	35.8
1350	29.1	30.9	32.8	34.9	37.0
1400	30.0	31.9	33.9	36.0	38.2
1450	30.9	32.8	34.9	37.1	39.4
1500	31.8	33.8	35.9	38.2	40.5
1600	33.5	35.7	37.9	40.3	42.8
1700	35.2	37.5	39.9	42.4	45.0
1800	36.9	39.3	41.8	44.4	47.2
1900	38.5	41.0	43.7	46.4	49.4
2000	40.1	42.7	45.5	48.4	51.5
2100	41.7	44.4	47.3	50.3	53.5
2200	43.2	46.0	49.0	52.2	55.5
2300	44.7	47.6	50.7	54.0	57.5
2400	46.1	49.2	52.4	55.8	59.4
2500	47.5	50.7	54.0	57.5	61.3
2600	48.9	52.2	55.6	59.2	63.1
2700	50.2	53.6	57.2	60.9	64.9
2800	51.5	55.0	58.7	62.5	66.6
2900	52.8	56.4	60.1	64.1	68.3
3000	54.0	57.7	61.6	65.7	70.0
3250	57.0	60.9	65.0	69.4	74.0
3500	59.7	63.9	68.3	72.9	77.8
3750	62.3	66.7	71.3	76.2	81.4
4000	64.7	69.3	74.2	79.3	84.8

DEPTH OF PRECIPITABLE WATER (MM) BETWEEN 1000-MB SURFACE AND INDICATED HEIGHT (M) ABOVE 1000-MB AS A FUNCTION OF 1000-MB TEMPERATURE (C) IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000-MB				
	26	27	28	29	30
4250	66.9	71.8	76.8	82.2	87.9
4500	69.0	74.0	79.3	85.0	90.9
4750	70.9	76.2	81.7	87.5	93.7
5000	72.7	78.1	83.9	89.9	96.3
5250	74.4	80.0	85.9	92.2	98.8
5500	75.9	81.7	87.8	94.2	101.1
5750	77.3	83.2	89.5	96.2	103.2
6000	78.6	84.7	91.1	98.0	105.2
6250	79.8	86.0	92.6	99.7	107.1
6500	80.9	87.3	94.0	101.2	108.8
6750	81.9	88.4	95.3	102.6	110.4
7000	82.8	89.4	96.5	104.0	111.9
7250	83.6	90.3	97.5	105.2	113.3
7500	84.3	91.2	98.5	106.3	114.6
7750	85.0	92.0	99.4	107.3	115.8
8000	85.6	92.7	100.2	108.3	116.9
8250	86.1	93.3	101.0	109.2	117.9
8500	86.6	93.9	101.7	109.9	118.8
8750	87.0	94.4	102.3	110.6	119.6
9000	87.4	94.8	102.8	111.3	120.4
9250	87.7	95.2	103.3	111.9	121.0
9500	88.0	95.6	103.7	112.4	121.7
9750	88.3	95.9	104.1	112.9	122.2
10000	88.5	96.2	104.4	113.3	122.7
10250	88.7	96.4	104.7	113.6	123.2
10500	88.8	96.6	105.0	114.0	123.6
10750	89.0	96.8	105.2	114.3	123.9
11000	89.1	97.0	105.4	114.5	124.3
11250	89.2	97.1	105.6	114.7	124.5
11500	89.3	97.2	105.7	114.9	124.8
11750	89.3	97.3	105.9	115.1	125.0
12000	89.4	97.4	106.0	115.2	125.2
12250	89.4	97.4	106.0	115.3	125.3
12500	89.5	97.5	106.1	115.4	125.5
12750	89.5	97.5	106.2	115.5	125.6
13000	89.5	97.5	106.2	115.6	125.7
13250	89.5	97.6	106.3	115.6	125.8
13500	89.5	97.6	106.3	115.7	125.8
13750	89.5	97.6	106.3	115.7	125.9
14000	89.6	97.6	106.3	115.8	125.9
14250	89.6	97.6	106.3	115.8	126.0
14500	89.6	97.6	106.4	115.8	126.0
14750	89.6	97.6	106.4	115.8	126.0
15000	89.6	97.6	106.4	115.8	126.0

Table 2

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	5	6	7	8	9	10	11
100	4.4	5.4	6.4	7.4	8.5	9.5	10.5
200	3.8	4.8	5.9	6.9	7.9	8.9	10.0
300	3.2	4.3	5.3	6.3	7.4	8.4	9.4
400	2.6	3.7	4.7	5.8	6.8	7.9	8.9
500	2.0	3.1	4.1	5.2	6.2	7.3	8.4
600	1.4	2.5	3.5	4.6	5.7	6.8	7.8
700	0.8	1.9	2.9	4.0	5.1	6.2	7.3
800	0.1	1.2	2.3	3.4	4.5	5.6	6.7
900	-0.5	0.6	1.7	2.9	4.0	5.1	6.2
1000	-1.1	0.0	1.1	2.3	3.4	4.5	5.6
1100	-1.8	-0.6	0.5	1.7	2.8	3.9	5.1
1200	-2.4	-1.2	-0.0	1.1	2.2	3.4	4.5
1300	-3.1	-1.9	-0.7	0.5	1.6	2.8	3.9
1400	-3.7	-2.5	-1.3	-0.2	1.0	2.2	3.4
1500	-4.4	-3.2	-2.0	-0.8	0.4	1.6	2.8
1600	-5.0	-3.8	-2.6	-1.4	-0.2	1.0	2.2
1700	-5.7	-4.5	-3.3	-2.0	-0.8	0.4	1.6
1800	-6.4	-5.1	-3.9	-2.7	-1.4	-0.2	1.0
1900	-7.1	-5.8	-4.6	-3.3	-2.0	-0.8	0.5
2000	-7.8	-6.5	-5.2	-3.9	-2.7	-1.4	-0.1
2100	-8.5	-7.2	-5.9	-4.6	-3.3	-2.0	-0.7
2200	-9.2	-7.9	-6.6	-5.3	-4.0	-2.7	-1.4
2300	-9.9	-8.6	-7.2	-5.9	-4.6	-3.3	-2.0
2400	-10.6	-9.3	-7.9	-6.6	-5.3	-3.9	-2.6
2500	-11.3	-10.0	-8.6	-7.3	-5.9	-4.6	-3.2
2600	-12.1	-10.7	-9.3	-7.9	-6.6	-5.2	-3.8
2700	-12.8	-11.4	-10.0	-8.6	-7.2	-5.9	-4.5
2800	-13.5	-12.1	-10.7	-9.3	-7.9	-6.5	-5.1
2900	-14.3	-12.9	-11.4	-10.0	-8.6	-7.2	-5.8
3000	-15.0	-13.6	-12.2	-10.7	-9.3	-7.9	-6.4
3100	-15.8	-14.4	-12.9	-11.4	-10.0	-8.5	-7.1
3200	-16.6	-15.1	-13.6	-12.2	-10.7	-9.2	-7.7
3300	-17.4	-15.9	-14.4	-12.9	-11.4	-9.9	-8.4
3400	-18.1	-16.6	-15.1	-13.6	-12.1	-10.6	-9.1
3500	-18.9	-17.4	-15.9	-14.4	-12.8	-11.3	-9.8
3600	-19.7	-18.2	-16.6	-15.1	-13.6	-12.0	-10.5
3700	-20.5	-19.0	-17.4	-15.9	-14.3	-12.7	-11.2
3800	-21.3	-19.8	-18.2	-16.6	-15.0	-13.4	-11.9
3900	-22.1	-20.6	-19.0	-17.4	-15.8	-14.2	-12.6
4000	-23.0	-21.4	-19.8	-18.1	-16.5	-14.9	-13.3
4100	-23.8	-22.2	-20.6	-18.9	-17.3	-15.6	-14.0
4200	-24.6	-23.0	-21.4	-19.7	-18.1	-16.4	-14.7
4300	-25.5	-23.8	-22.2	-20.5	-18.8	-17.1	-15.5
4400	-26.3	-24.7	-23.0	-21.3	-19.6	-17.9	-16.2
4500	-27.2	-25.5	-23.8	-22.1	-20.4	-18.7	-17.0
4600	-28.0	-26.3	-24.6	-22.9	-21.2	-19.5	-17.7
4700	-28.9	-27.2	-25.5	-23.7	-22.0	-20.2	-18.5
4800	-29.7	-28.0	-26.3	-24.6	-22.8	-21.0	-19.2
4900	-30.6	-28.9	-27.1	-25.4	-23.6	-21.8	-20.0
5000	-31.5	-29.8	-28.0	-26.2	-24.4	-22.6	-20.8

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	5	6	7	8	9	10	11
5100	-32.4	-30.6	-28.9	-27.1	-25.3	-23.4	-21.6
5200	-33.3	-31.5	-29.7	-27.9	-26.1	-24.2	-22.4
5300	-34.2	-32.4	-30.6	-28.8	-26.9	-25.1	-23.2
5400	-35.1	-33.3	-31.5	-29.6	-27.8	-25.9	-24.0
5500	-36.0	-34.2	-32.3	-30.5	-28.6	-26.7	-24.8
5600	-36.9	-35.1	-33.2	-31.4	-29.5	-27.6	-25.6
5700	-37.8	-36.0	-34.1	-32.2	-30.3	-28.4	-26.5
5800	-38.7	-36.9	-35.0	-33.1	-31.2	-29.3	-27.3
5900	-39.6	-37.8	-35.9	-34.0	-32.1	-30.1	-28.1
6000	-40.5	-38.7	-36.8	-34.9	-33.0	-31.0	-29.0
6100	-41.5	-39.6	-37.7	-35.8	-33.8	-31.9	-29.8
6200	-42.4	-40.5	-38.6	-36.7	-34.7	-32.7	-30.7
6300	-43.3	-41.5	-39.6	-37.6	-35.6	-33.6	-31.6
6400	-44.3	-42.4	-40.5	-38.5	-36.5	-34.5	-32.4
6500	-45.2	-43.3	-41.4	-39.4	-37.4	-35.4	-33.3
6600	-46.1	-44.3	-42.3	-40.3	-38.3	-36.3	-34.2
6700	-47.1	-45.2	-43.3	-41.3	-39.2	-37.2	-35.1
6800	-48.0	-46.1	-44.2	-42.2	-40.2	-38.1	-36.0
6900	-49.0	-47.1	-45.1	-43.1	-41.1	-39.0	-36.9
7000	-49.9	-48.0	-46.1	-44.1	-42.0	-39.9	-37.8
7100	-50.9	-49.0	-47.0	-45.0	-42.9	-40.8	-38.7
7200	-51.8	-49.9	-47.9	-45.9	-43.9	-41.7	-39.6
7300	-52.8	-50.9	-48.9	-46.9	-44.8	-42.7	-40.5
7400	-53.8	-51.8	-49.8	-47.8	-45.7	-43.6	-41.4
7500	-54.7	-52.8	-50.8	-48.8	-46.7	-44.5	-42.3
7600	-55.7	-53.7	-51.7	-49.7	-47.6	-45.5	-43.3
7700	-56.6	-54.7	-52.7	-50.7	-48.6	-46.4	-44.2
7800	-57.6	-55.7	-53.7	-51.6	-49.5	-47.3	-45.1
7900	-58.6	-56.6	-54.6	-52.6	-50.4	-48.3	-46.1
8000	-59.5	-57.6	-55.6	-53.5	-51.4	-49.2	-47.0
8100	-60.5	-58.5	-56.5	-54.5	-52.4	-50.2	-47.9
8200	-61.5	-59.5	-57.5	-55.4	-53.3	-51.1	-48.9
8300	-62.4	-60.5	-58.5	-56.4	-54.3	-52.1	-49.8
8400	-63.4	-61.4	-59.4	-57.4	-55.2	-53.0	-50.8
8500	-64.4	-62.4	-60.4	-58.3	-56.2	-54.0	-51.7
8600	-65.3	-63.4	-61.4	-59.3	-57.1	-54.9	-52.7
8700	-66.3	-64.3	-62.3	-60.2	-58.1	-55.9	-53.6
8800	-67.3	-65.3	-63.3	-61.2	-59.1	-56.9	-54.6
8900	-68.3	-66.3	-64.3	-62.2	-60.0	-57.8	-55.5
9000	-69.2	-67.3	-65.2	-63.1	-61.0	-58.8	-56.5
9100	-70.2	-68.2	-66.2	-64.1	-62.0	-59.8	-57.5
9200	-71.2	-69.2	-67.2	-65.1	-62.9	-60.7	-58.4
9300	-72.1	-70.2	-68.1	-66.1	-63.9	-61.7	-59.4
9400	-73.1	-71.1	-69.1	-67.0	-64.9	-62.6	-60.4
9500	-74.1	-72.1	-70.1	-68.0	-65.8	-63.6	-61.3
9600	-75.1	-73.1	-71.1	-69.0	-66.8	-64.6	-62.3
9700	-76.0	-74.1	-72.0	-69.9	-67.8	-65.6	-63.3
9800	-77.0	-75.0	-73.0	-70.9	-68.8	-66.5	-64.2
9900	-78.0	-76.0	-74.0	-71.9	-69.7	-67.5	-65.2
10000	-79.0	-77.0	-75.0	-72.9	-70.7	-68.5	-66.2

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	12	13	14	15	16	17	18
100	11.5	12.5	13.5	14.5	15.5	16.5	17.6
200	11.0	12.0	13.0	14.0	15.1	16.1	17.1
300	10.5	11.5	12.5	13.6	14.6	15.6	16.6
400	9.9	11.0	12.0	13.1	14.1	15.1	16.2
500	9.4	10.5	11.5	12.6	13.6	14.7	15.7
600	8.9	10.0	11.0	12.1	13.1	14.2	15.3
700	8.4	9.4	10.5	11.6	12.7	13.7	14.8
800	7.8	8.9	10.0	11.1	12.2	13.3	14.3
900	7.3	8.4	9.5	10.6	11.7	12.8	13.9
1000	6.7	7.9	9.0	10.1	11.2	12.3	13.4
1100	6.2	7.3	8.5	9.6	10.7	11.8	12.9
1200	5.7	6.8	7.9	9.1	10.2	11.3	12.5
1300	5.1	6.3	7.4	8.6	9.7	10.8	12.0
1400	4.5	5.7	6.9	8.0	9.2	10.3	11.5
1500	4.0	5.2	6.3	7.5	8.7	9.9	11.0
1600	3.4	4.6	5.8	7.0	8.2	9.4	10.5
1700	2.8	4.1	5.3	6.5	7.7	8.9	10.0
1800	2.3	3.5	4.7	5.9	7.1	8.3	9.5
1900	1.7	2.9	4.2	5.4	6.6	7.8	9.1
2000	1.1	2.4	3.6	4.9	6.1	7.3	8.6
2100	0.5	1.8	3.1	4.3	5.6	6.8	8.1
2200	-0.0	1.2	2.5	3.8	5.0	6.3	7.5
2300	-0.7	0.6	1.9	3.2	4.5	5.8	7.0
2400	-1.3	0.0	1.4	2.7	4.0	5.2	6.5
2500	-1.9	-0.5	0.8	2.1	3.4	4.7	6.0
2600	-2.5	-1.1	0.2	1.5	2.9	4.2	5.5
2700	-3.1	-1.7	-0.4	1.0	2.3	3.6	5.0
2800	-3.7	-2.3	-1.0	0.4	1.8	3.1	4.4
2900	-4.4	-3.0	-1.6	-0.2	1.2	2.6	3.9
3000	-5.0	-3.6	-2.2	-0.8	0.6	2.0	3.4
3100	-5.6	-4.2	-2.8	-1.3	0.0	1.5	2.9
3200	-6.3	-4.8	-3.4	-1.9	-0.5	0.9	2.3
3300	-6.9	-5.5	-4.0	-2.5	-1.1	0.3	1.8
3400	-7.6	-6.1	-4.6	-3.1	-1.7	-0.2	1.2
3500	-8.3	-6.7	-5.2	-3.7	-2.3	-0.8	0.7
3600	-8.9	-7.4	-5.9	-4.4	-2.9	-1.4	0.1
3700	-9.6	-8.1	-6.5	-5.0	-3.5	-1.9	-0.5
3800	-10.3	-8.7	-7.2	-5.6	-4.1	-2.5	-1.0
3900	-11.0	-9.4	-7.8	-6.2	-4.7	-3.1	-1.6
4000	-11.7	-10.1	-8.5	-6.9	-5.3	-3.7	-2.2
4100	-12.4	-10.7	-9.1	-7.5	-5.9	-4.3	-2.8
4200	-13.1	-11.4	-9.8	-8.2	-6.5	-4.9	-3.3
4300	-13.8	-12.1	-10.5	-8.8	-7.2	-5.5	-3.9
4400	-14.5	-12.8	-11.1	-9.5	-7.8	-6.2	-4.5
4500	-15.2	-13.5	-11.8	-10.1	-8.4	-6.8	-5.1
4600	-16.0	-14.2	-12.5	-10.8	-9.1	-7.4	-5.7
4700	-16.7	-15.0	-13.2	-11.5	-9.7	-8.0	-6.3
4800	-17.5	-15.7	-13.9	-12.2	-10.4	-8.7	-7.0
4900	-18.2	-16.4	-14.6	-12.9	-11.1	-9.3	-7.6
5000	-19.0	-17.2	-15.4	-13.5	-11.8	-10.0	-8.2

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	12	13	14	15	16	17	18
5100	-19.8	-17.9	-16.1	-14.3	-12.4	-10.6	-8.8
5200	-20.5	-18.7	-16.8	-15.0	-13.1	-11.3	-9.5
5300	-21.3	-19.4	-17.6	-15.7	-13.8	-12.0	-10.1
5400	-22.1	-20.2	-18.3	-16.4	-14.5	-12.6	-10.8
5500	-22.9	-21.0	-19.1	-17.1	-15.2	-13.3	-11.4
5600	-23.7	-21.8	-19.8	-17.9	-15.9	-14.0	-12.1
5700	-24.5	-22.5	-20.6	-18.6	-16.7	-14.7	-12.8
5800	-25.3	-23.3	-21.4	-19.4	-17.4	-15.4	-13.5
5900	-26.2	-24.1	-22.1	-20.1	-18.1	-16.1	-14.1
6000	-27.0	-25.0	-22.9	-20.9	-18.9	-16.8	-14.8
6100	-27.8	-25.8	-23.7	-21.7	-19.6	-17.6	-15.5
6200	-28.7	-26.6	-24.5	-22.4	-20.4	-18.3	-16.2
6300	-29.5	-27.4	-25.3	-23.2	-21.1	-19.0	-17.0
6400	-30.4	-28.3	-26.1	-24.0	-21.9	-19.8	-17.7
6500	-31.2	-29.1	-27.0	-24.8	-22.7	-20.5	-18.4
6600	-32.1	-29.9	-27.8	-25.6	-23.5	-21.3	-19.1
6700	-33.0	-30.8	-28.6	-26.4	-24.2	-22.1	-19.9
6800	-33.8	-31.7	-29.5	-27.3	-25.0	-22.8	-20.6
6900	-34.7	-32.5	-30.3	-28.1	-25.8	-23.6	-21.4
7000	-35.6	-33.4	-31.2	-28.9	-26.7	-24.4	-22.1
7100	-36.5	-34.3	-32.0	-29.8	-27.5	-25.2	-22.9
7200	-37.4	-35.2	-32.9	-30.6	-28.3	-26.0	-23.7
7300	-38.3	-36.0	-33.8	-31.5	-29.1	-26.8	-24.5
7400	-39.2	-36.9	-34.6	-32.3	-30.0	-27.6	-25.2
7500	-40.1	-37.8	-35.5	-33.2	-30.8	-28.4	-26.0
7600	-41.0	-38.7	-36.4	-34.0	-31.7	-29.3	-26.8
7700	-41.9	-39.6	-37.3	-34.9	-32.5	-30.1	-27.7
7800	-42.9	-40.6	-38.2	-35.8	-33.4	-30.9	-28.5
7900	-43.8	-41.5	-39.1	-36.7	-34.2	-31.8	-29.3
8000	-44.7	-42.4	-40.0	-37.6	-35.1	-32.6	-30.1
8100	-45.7	-43.3	-40.9	-38.5	-36.0	-33.5	-31.0
8200	-46.6	-44.2	-41.8	-39.4	-36.9	-34.4	-31.8
8300	-47.5	-45.2	-42.8	-40.3	-37.8	-35.2	-32.7
8400	-48.5	-46.1	-43.7	-41.2	-38.7	-36.1	-33.5
8500	-49.4	-47.0	-44.6	-42.1	-39.6	-37.0	-34.4
8600	-50.4	-48.0	-45.5	-43.0	-40.5	-37.9	-35.2
8700	-51.3	-48.9	-46.5	-43.9	-41.4	-38.8	-36.1
8800	-52.3	-49.9	-47.4	-44.9	-42.3	-39.7	-37.0
8900	-53.2	-50.8	-48.3	-45.8	-43.2	-40.6	-37.9
9000	-54.2	-51.8	-49.3	-46.7	-44.1	-41.5	-38.8
9100	-55.1	-52.7	-50.2	-47.7	-45.1	-42.4	-39.7
9200	-56.1	-53.7	-51.2	-48.6	-46.0	-43.3	-40.6
9300	-57.0	-54.6	-52.1	-49.5	-46.9	-44.2	-41.5
9400	-58.0	-55.6	-53.1	-50.5	-47.8	-45.1	-42.4
9500	-59.0	-56.5	-54.0	-51.4	-48.8	-46.1	-43.3
9600	-59.9	-57.5	-55.0	-52.4	-49.7	-47.0	-44.2
9700	-60.9	-58.4	-55.9	-53.3	-50.7	-47.9	-45.1
9800	-61.9	-59.4	-56.9	-54.3	-51.6	-48.9	-46.1
9900	-62.8	-60.4	-57.8	-55.2	-52.6	-49.8	-47.0
10000	-63.8	-61.3	-58.8	-56.2	-53.5	-50.8	-47.9

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	19	20	21	22	23	24	25
100	18.6	19.6	20.6	21.6	22.6	23.6	24.6
200	18.1	19.1	20.2	21.2	22.2	23.2	24.2
300	17.7	18.7	19.7	20.8	21.8	22.8	23.8
400	17.2	18.3	19.3	20.3	21.4	22.4	23.4
500	16.8	17.8	18.9	19.9	21.0	22.0	23.0
600	16.3	17.4	18.4	19.5	20.5	21.6	22.6
700	15.9	16.9	18.0	19.1	20.1	21.2	22.2
800	15.4	16.5	17.6	18.6	19.7	20.8	21.8
900	15.0	16.0	17.1	18.2	19.3	20.4	21.4
1000	14.5	15.6	16.7	17.8	18.9	19.9	21.0
1100	14.0	15.1	16.2	17.3	18.4	19.5	20.6
1200	13.6	14.7	15.8	16.9	18.0	19.1	20.2
1300	13.1	14.2	15.4	16.5	17.6	18.7	19.8
1400	12.6	13.8	14.9	16.0	17.2	18.3	19.4
1500	12.2	13.3	14.5	15.6	16.7	17.9	19.0
1600	11.7	12.9	14.0	15.2	16.3	17.4	18.6
1700	11.2	12.4	13.6	14.7	15.9	17.0	18.2
1800	10.7	11.9	13.1	14.3	15.4	16.6	17.8
1900	10.3	11.5	12.6	13.8	15.0	16.2	17.3
2000	9.8	11.0	12.2	13.4	14.6	15.7	16.9
2100	9.3	10.5	11.7	12.9	14.1	15.3	16.5
2200	8.8	10.0	11.3	12.5	13.7	14.9	16.1
2300	8.3	9.5	10.8	12.0	13.2	14.4	15.7
2400	7.8	9.1	10.3	11.6	12.8	14.0	15.2
2500	7.3	8.6	9.8	11.1	12.3	13.6	14.8
2600	6.8	8.1	9.4	10.6	11.9	13.1	14.4
2700	6.3	7.6	8.9	10.2	11.4	12.7	13.9
2800	5.8	7.1	8.4	9.7	11.0	12.3	13.5
2900	5.3	6.6	7.9	9.2	10.5	11.8	13.1
3000	4.7	6.1	7.4	8.8	10.1	11.4	12.6
3100	4.2	5.6	6.9	8.3	9.6	10.9	12.2
3200	3.7	5.1	6.4	7.8	9.1	10.5	11.8
3300	3.2	4.6	5.9	7.3	8.7	10.0	11.3
3400	2.6	4.1	5.4	6.8	8.2	9.5	10.9
3500	2.1	3.5	4.9	6.3	7.7	9.1	10.4
3600	1.6	3.0	4.4	5.8	7.2	8.6	10.0
3700	1.0	2.5	3.9	5.4	6.8	8.2	9.5
3800	0.5	1.9	3.4	4.9	6.3	7.7	9.1
3900	-0.0	1.4	2.9	4.4	5.8	7.2	8.6
4000	-0.6	0.9	2.4	3.8	5.3	6.7	8.2
4100	-1.2	0.3	1.8	3.3	4.8	6.3	7.7
4200	-1.8	-0.2	1.3	2.8	4.3	5.8	7.2
4300	-2.3	-0.8	0.8	2.3	3.8	5.3	6.8
4400	-2.9	-1.3	0.2	1.8	3.3	4.8	6.3
4500	-3.5	-1.9	-0.3	1.3	2.8	4.3	5.8
4600	-4.1	-2.4	-0.8	0.7	2.3	3.8	5.4
4700	-4.7	-3.0	-1.4	0.2	1.8	3.3	4.9
4800	-5.3	-3.6	-1.9	-0.3	1.3	2.8	4.4
4900	-5.9	-4.2	-2.5	-0.9	0.8	2.3	3.9
5000	-6.5	-4.8	-3.1	-1.4	0.2	1.8	3.4

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	19	20	21	22	23	24	25
5100	-7.1	-5.3	-3.6	-2.0	-0.3	1.3	2.9
5200	-7.7	-5.9	-4.2	-2.5	-0.8	0.8	2.4
5300	-8.3	-6.5	-4.8	-3.1	-1.4	0.3	1.9
5400	-9.0	-7.2	-5.4	-3.6	-1.9	-0.2	1.4
5500	-9.6	-7.8	-6.0	-4.2	-2.4	-0.7	0.9
5600	-10.2	-8.4	-6.6	-4.8	-3.0	-1.3	0.4
5700	-10.9	-9.0	-7.2	-5.3	-3.6	-1.8	-0.0
5800	-11.5	-9.6	-7.8	-5.9	-4.1	-2.3	-0.6
5900	-12.2	-10.3	-8.4	-6.5	-4.7	-2.9	-1.1
6000	-12.9	-10.9	-9.0	-7.1	-5.2	-3.4	-1.6
6100	-13.5	-11.6	-9.6	-7.7	-5.8	-4.0	-2.2
6200	-14.2	-12.2	-10.2	-8.3	-6.4	-4.5	-2.7
6300	-14.9	-12.9	-10.9	-8.9	-7.0	-5.1	-3.2
6400	-15.6	-13.5	-11.5	-9.5	-7.6	-5.6	-3.8
6500	-16.3	-14.2	-12.1	-10.1	-8.2	-6.2	-4.3
6600	-17.0	-14.9	-12.8	-10.8	-8.8	-6.8	-4.9
6700	-17.7	-15.6	-13.5	-11.4	-9.4	-7.4	-5.4
6800	-18.4	-16.3	-14.1	-12.0	-10.0	-8.0	-6.0
6900	-19.2	-17.0	-14.8	-12.7	-10.6	-8.5	-6.5
7000	-19.9	-17.7	-15.5	-13.3	-11.2	-9.1	-7.1
7100	-20.6	-18.4	-16.2	-14.0	-11.8	-9.7	-7.7
7200	-21.4	-19.1	-16.8	-14.6	-12.5	-10.3	-8.3
7300	-22.1	-19.8	-17.5	-15.3	-13.1	-11.0	-8.9
7400	-22.9	-20.6	-18.3	-16.0	-13.8	-11.6	-9.4
7500	-23.7	-21.3	-19.0	-16.7	-14.4	-12.2	-10.0
7600	-24.4	-22.1	-19.7	-17.4	-15.1	-12.8	-10.6
7700	-25.2	-22.8	-20.4	-18.0	-15.7	-13.5	-11.2
7800	-26.0	-23.6	-21.1	-18.8	-16.4	-14.1	-11.9
7900	-26.8	-24.3	-21.9	-19.5	-17.1	-14.7	-12.5
8000	-27.6	-25.1	-22.6	-20.2	-17.8	-15.4	-13.1
8100	-28.4	-25.9	-23.4	-20.9	-18.5	-16.1	-13.7
8200	-29.3	-26.7	-24.2	-21.6	-19.2	-16.7	-14.4
8300	-30.1	-27.5	-24.9	-22.4	-19.9	-17.4	-15.0
8400	-30.9	-28.3	-25.7	-23.1	-20.6	-18.1	-15.7
8500	-31.8	-29.1	-26.5	-23.9	-21.3	-18.8	-16.3
8600	-32.6	-29.9	-27.3	-24.6	-22.0	-19.5	-17.0
8700	-33.4	-30.8	-28.1	-25.4	-22.8	-20.2	-17.6
8800	-34.3	-31.6	-28.9	-26.2	-23.5	-20.9	-18.3
8900	-35.2	-32.4	-29.7	-27.0	-24.3	-21.6	-19.0
9000	-36.0	-33.3	-30.5	-27.8	-25.0	-22.3	-19.7
9100	-36.9	-34.1	-31.3	-28.6	-25.8	-23.1	-20.4
9200	-37.8	-35.0	-32.2	-29.4	-26.6	-23.8	-21.1
9300	-38.7	-35.9	-33.0	-30.2	-27.3	-24.5	-21.8
9400	-39.6	-36.7	-33.9	-31.0	-28.1	-25.3	-22.5
9500	-40.5	-37.6	-34.7	-31.8	-28.9	-26.1	-23.2
9600	-41.4	-38.5	-35.6	-32.6	-29.7	-26.8	-24.0
9700	-42.3	-39.4	-36.4	-33.5	-30.5	-27.6	-24.7
9800	-43.2	-40.3	-37.3	-34.3	-31.4	-28.4	-25.5
9900	-44.1	-41.2	-38.2	-35.2	-32.2	-29.2	-26.2
10000	-45.0	-42.1	-39.1	-36.0	-33.0	-30.0	-27.0

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB				
	26	27	28	29	30
100	25.6	26.6	27.6	28.6	29.6
200	25.2	26.2	27.3	28.3	29.3
300	24.8	25.9	26.9	27.9	28.9
400	24.5	25.5	26.5	27.5	28.6
500	24.1	25.1	26.1	27.2	28.2
600	23.7	24.7	25.8	26.8	27.8
700	23.3	24.3	25.4	26.4	27.5
800	22.9	23.9	25.0	26.1	27.1
900	22.5	23.6	24.6	25.7	26.7
1000	22.1	23.2	24.2	25.3	26.4
1100	21.7	22.8	23.9	24.9	26.0
1200	21.3	22.4	23.5	24.6	25.6
1300	20.9	22.0	23.1	24.2	25.3
1400	20.5	21.6	22.7	23.8	24.9
1500	20.1	21.2	22.3	23.4	24.5
1600	19.7	20.8	21.9	23.1	24.2
1700	19.3	20.4	21.6	22.7	23.8
1800	18.9	20.0	21.2	22.3	23.4
1900	18.5	19.6	20.8	21.9	23.1
2000	18.1	19.2	20.4	21.5	22.7
2100	17.7	18.8	20.0	21.2	22.3
2200	17.3	18.4	19.6	20.8	21.9
2300	16.8	18.0	19.2	20.4	21.6
2400	16.4	17.6	18.8	20.0	21.2
2500	16.0	17.2	18.4	19.6	20.8
2600	15.6	16.8	18.0	19.2	20.4
2700	15.2	16.4	17.6	18.8	20.0
2800	14.8	16.0	17.2	18.4	19.7
2900	14.3	15.6	16.8	18.1	19.3
3000	13.9	15.2	16.4	17.7	18.9
3100	13.5	14.8	16.0	17.3	18.5
3200	13.1	14.3	15.6	16.9	18.1
3300	12.6	13.9	15.2	16.5	17.7
3400	12.2	13.5	14.8	16.1	17.3
3500	11.8	13.1	14.4	15.7	17.0
3600	11.3	12.7	14.0	15.3	16.6
3700	10.9	12.2	13.6	14.9	16.2
3800	10.4	11.8	13.1	14.5	15.8
3900	10.0	11.4	12.7	14.1	15.4
4000	9.6	10.9	12.3	13.6	15.0
4100	9.1	10.5	11.9	13.2	14.6
4200	8.7	10.1	11.5	12.8	14.2
4300	8.2	9.6	11.0	12.4	13.8
4400	7.8	9.2	10.6	12.0	13.4
4500	7.3	8.7	10.2	11.6	13.0
4600	6.8	8.3	9.7	11.2	12.6
4700	6.4	7.9	9.3	10.7	12.2
4800	5.9	7.4	8.9	10.3	11.8
4900	5.4	7.0	8.4	9.9	11.4
5000	5.0	6.5	8.0	9.5	11.0

TEMPERATURE (C) AT THE INDICATED HEIGHT (METERS) ABOVE 1000-MB SURFACE, AS A FUNCTION OF THE 1000-MB TEMPERATURE (C), IN A SATURATED ATMOSPHERE WITH PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB				
	26	27	28	29	30
5100	4.5	6.0	7.6	9.0	10.5
5200	4.0	5.6	7.1	8.6	10.1
5300	3.5	5.1	6.7	8.2	9.7
5400	3.1	4.6	6.2	7.7	9.3
5500	2.6	4.2	5.8	7.3	8.9
5600	2.1	3.7	5.3	6.9	8.4
5700	1.6	3.2	4.8	6.4	8.0
5800	1.1	2.8	4.4	6.0	7.6
5900	0.6	2.3	3.9	5.5	7.2
6000	0.0	1.8	3.5	5.1	6.8
6100	-0.4	1.3	3.0	4.6	6.3
6200	-0.9	0.8	2.5	4.2	5.9
6300	-1.4	0.3	2.0	3.7	5.4
6400	-2.0	-0.2	1.6	3.3	5.0
6500	-2.5	-0.7	1.1	2.8	4.6
6600	-3.0	-1.2	0.6	2.3	4.1
6700	-3.5	-1.7	0.1	1.9	3.7
6800	-4.1	-2.2	-0.4	1.4	3.2
6900	-4.6	-2.7	-0.9	0.9	2.7
7000	-5.1	-3.2	-1.4	0.4	2.3
7100	-5.7	-3.8	-1.9	-0.0	1.8
7200	-6.2	-4.3	-2.4	-0.5	1.3
7300	-6.8	-4.8	-2.9	-1.0	0.8
7400	-7.4	-5.4	-3.4	-1.5	0.3
7500	-7.9	-5.9	-3.9	-2.0	-0.2
7600	-8.5	-6.4	-4.4	-2.5	-0.7
7700	-9.1	-7.0	-5.0	-3.0	-1.2
7800	-9.7	-7.5	-5.5	-3.5	-1.7
7900	-10.3	-8.1	-6.0	-4.0	-2.2
8000	-10.9	-8.7	-6.6	-4.5	-2.6
8100	-11.4	-9.2	-7.1	-5.0	-3.1
8200	-12.1	-9.8	-7.6	-5.6	-3.6
8300	-12.7	-10.4	-8.2	-6.1	-4.1
8400	-13.3	-11.0	-8.8	-6.6	-4.5
8500	-13.9	-11.6	-9.3	-7.1	-5.0
8600	-14.5	-12.2	-9.9	-7.7	-5.6
8700	-15.2	-12.8	-10.5	-8.2	-6.1
8800	-15.8	-13.4	-11.0	-8.8	-6.6
8900	-16.5	-14.0	-11.6	-9.3	-7.1
9000	-17.1	-14.6	-12.2	-9.9	-7.7
9100	-17.8	-15.3	-12.8	-10.4	-8.2
9200	-18.5	-15.9	-13.4	-11.0	-8.8
9300	-19.1	-16.5	-14.0	-11.6	-9.3
9400	-19.8	-17.2	-14.6	-12.2	-9.8
9500	-20.5	-17.8	-15.2	-12.7	-10.4
9600	-21.2	-18.5	-15.9	-13.3	-11.0
9700	-21.9	-19.2	-16.5	-13.9	-11.6
9800	-22.6	-19.8	-17.1	-14.5	-12.2
9900	-23.3	-20.5	-17.8	-15.1	-12.8
10000	-24.1	-21.2	-18.4	-15.8	-13.5

Table 3

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	5	6	7	8	9	10	11
100	987.8	987.9	987.9	988.0	988.0	988.1	988.1
200	975.8	975.9	976.0	976.1	976.2	976.3	976.4
300	963.9	964.0	964.2	964.3	964.4	964.6	964.7
400	952.1	952.3	952.4	952.6	952.8	953.0	953.2
500	940.4	940.6	940.9	941.1	941.3	941.5	941.8
600	928.8	929.1	929.4	929.6	929.9	930.2	930.5
700	917.4	917.7	918.0	918.3	918.6	919.0	919.3
800	906.1	906.4	906.8	907.1	907.5	907.8	908.2
900	894.8	895.2	895.6	896.0	896.4	896.8	897.2
1000	883.7	884.2	884.6	885.0	885.5	885.9	886.4
1100	872.7	873.2	873.7	874.2	874.7	875.1	875.6
1200	861.8	862.4	862.9	863.4	863.9	864.5	865.0
1300	851.1	851.6	852.2	852.8	853.3	853.9	854.4
1400	840.4	841.0	841.6	842.2	842.8	843.4	844.0
1500	829.8	830.5	831.1	831.8	832.4	833.1	833.7
1600	819.4	820.1	820.8	821.4	822.1	822.8	823.5
1700	809.0	809.8	810.5	811.2	811.9	812.6	813.4
1800	798.8	799.5	800.3	801.1	801.8	802.6	803.4
1900	788.6	789.4	790.3	791.1	791.9	792.6	793.4
2000	778.6	779.4	780.3	781.1	782.0	782.8	783.6
2100	768.7	769.5	770.4	771.3	772.2	773.1	773.9
2200	758.8	759.7	760.7	761.6	762.5	763.4	764.3
2300	749.1	750.0	751.0	752.0	752.9	753.8	754.8
2400	739.4	740.4	741.4	742.4	743.4	744.4	745.4
2500	729.9	730.9	732.0	733.0	734.0	735.0	736.0
2600	720.4	721.5	722.6	723.7	724.7	725.8	726.8
2700	711.1	712.2	713.3	714.4	715.5	716.6	717.7
2800	701.8	703.0	704.1	705.3	706.4	707.5	708.6
2900	692.7	693.9	695.0	696.2	697.4	698.5	699.7
3000	683.6	684.8	686.0	687.2	688.4	689.6	690.8
3100	674.6	675.9	677.1	678.4	679.6	680.8	682.1
3200	665.7	667.0	668.3	669.6	670.9	672.1	673.4
3300	656.9	658.3	659.6	660.9	662.2	663.5	664.8
3400	648.2	649.6	650.9	652.3	653.6	655.0	656.3
3500	639.6	641.0	642.4	643.8	645.1	454.5	647.9
3600	631.1	632.5	633.9	635.3	636.7	638.1	639.5
3700	622.6	624.1	625.5	627.0	628.4	629.9	631.3
3800	614.3	615.8	617.3	618.7	620.2	621.7	623.1
3900	606.0	607.5	609.1	610.6	612.1	613.6	615.0
4000	597.8	599.4	600.9	602.5	604.0	605.5	607.0
4100	589.7	591.3	592.9	594.5	596.0	597.6	599.1
4200	581.7	583.3	584.9	586.5	588.1	589.7	591.3
4300	573.8	575.4	577.1	578.7	580.3	581.9	583.5
4400	565.9	567.6	569.3	570.9	572.6	574.2	575.9
4500	558.1	559.8	561.5	563.2	564.9	566.6	568.3
4600	550.4	552.2	553.9	555.6	557.3	559.0	560.7
4700	542.8	544.6	546.3	548.1	549.8	551.6	553.3
4800	535.3	537.1	538.9	540.6	542.4	544.2	545.9
4900	527.8	529.6	531.5	533.3	535.1	536.9	538.7
5000	520.5	522.3	524.1	526.0	527.8	529.6	531.4

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	5	6	7	8	9	10	11
5100	513.1	515.0	516.9	518.7	520.6	522.5	524.3
5200	505.9	507.8	509.7	511.6	513.5	515.4	517.2
5300	498.8	500.7	502.6	504.5	506.4	508.3	510.2
5400	491.7	493.6	495.6	497.5	499.5	501.4	503.3
5500	484.7	486.7	488.6	490.6	492.6	494.5	496.5
5600	477.7	479.7	481.7	483.7	485.7	487.7	489.7
5700	470.9	472.9	474.9	477.0	479.0	481.0	483.0
5800	464.1	466.1	468.2	470.2	472.3	474.3	476.3
5900	457.4	459.5	461.5	463.6	465.7	467.7	469.8
6000	450.7	452.8	454.9	457.0	459.1	461.2	463.3
6100	444.2	446.3	448.4	450.5	452.6	454.7	456.8
6200	437.7	439.8	441.9	444.1	446.2	448.3	450.5
6300	431.2	433.4	435.5	437.7	439.9	442.0	444.2
6400	424.9	427.0	429.2	431.4	433.6	435.8	437.9
6500	418.6	420.8	423.0	425.2	427.4	429.6	431.8
6600	412.3	414.6	416.8	419.0	421.2	423.4	425.7
6700	406.2	408.4	410.6	412.9	415.1	417.4	419.6
6800	400.1	402.3	404.6	406.8	409.1	411.4	413.6
6900	394.1	396.3	398.6	400.9	403.2	405.4	407.7
7000	388.1	390.4	392.7	395.0	397.3	399.6	401.9
7100	382.2	384.5	386.8	389.1	391.4	393.8	396.1
7200	376.4	378.7	381.0	383.3	385.7	388.0	390.3
7300	370.6	372.9	375.3	377.6	380.0	382.3	384.7
7400	364.9	367.2	369.6	371.9	374.3	376.7	379.1
7500	359.3	361.6	364.0	366.3	368.7	371.1	373.5
7600	353.7	356.0	358.4	360.8	363.2	365.6	368.0
7700	348.2	350.5	352.9	355.3	357.8	360.2	362.6
7800	342.7	345.1	347.5	349.9	352.3	354.8	357.2
7900	337.3	339.7	342.1	344.6	347.0	349.5	351.9
8000	332.0	334.4	336.8	339.3	341.7	344.2	346.7
8100	326.7	329.1	331.6	334.0	336.5	339.0	341.5
8200	321.5	323.9	326.4	328.8	331.3	333.8	336.3
8300	316.4	318.8	321.2	323.7	326.2	328.7	331.2
8400	311.3	313.7	316.2	318.7	321.2	323.7	326.2
8500	306.2	308.7	311.2	313.7	316.2	318.7	321.2
8600	301.3	303.7	306.2	308.7	311.2	313.8	316.3
8700	296.3	298.8	301.3	303.8	306.3	308.9	311.4
8800	291.5	294.0	296.5	299.0	301.5	304.1	306.6
8900	286.7	289.2	291.7	294.2	296.7	299.3	301.9
9000	281.9	284.4	286.9	289.5	292.0	294.6	297.2
9100	277.3	279.7	282.2	284.8	287.3	289.9	292.5
9200	272.6	275.1	277.6	280.2	282.7	285.3	287.9
9300	268.1	270.5	273.1	275.6	278.2	280.8	283.4
9400	263.5	266.0	268.5	271.1	273.7	276.3	278.9
9500	259.1	261.6	264.1	266.6	269.2	271.8	274.4
9600	254.7	257.1	259.7	262.2	264.8	267.4	270.0
9700	250.3	252.8	255.3	257.9	260.4	263.1	265.7
9800	246.0	248.5	251.0	253.6	256.1	258.8	261.4
9900	241.7	244.2	246.8	249.3	251.9	254.5	257.2
10000	237.5	240.0	242.6	245.1	247.7	250.3	253.0

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB					
	12	13	14	15	16	17
100	988.2	988.2	988.3	988.3	988.3	988.4
200	976.4	976.5	976.6	976.7	976.8	976.9
300	964.8	965.0	965.1	965.2	965.4	965.5
400	953.4	953.5	953.7	953.9	954.1	954.2
500	942.0	942.2	942.4	942.6	942.9	943.1
600	930.7	931.0	931.3	931.5	931.8	932.0
700	919.6	919.9	920.2	920.5	920.8	921.1
800	908.5	908.9	909.2	909.6	909.9	910.3
900	897.6	898.0	898.4	898.8	899.2	899.6
1000	886.8	887.2	887.7	888.1	888.5	889.0
1100	876.1	876.6	877.0	877.5	878.0	878.5
1200	865.5	866.0	866.5	867.0	867.5	868.1
1300	855.0	855.6	856.1	856.7	857.2	857.8
1400	844.6	845.2	845.8	846.4	847.0	847.6
1500	834.3	835.0	835.6	836.2	836.9	837.5
1600	824.2	824.8	825.5	826.2	826.8	827.5
1700	814.1	814.8	815.5	816.2	816.9	817.6
1800	804.1	804.9	805.6	806.3	807.1	807.8
1900	794.2	795.0	795.8	796.6	797.4	798.1
2000	784.5	785.3	786.1	786.9	787.7	788.5
2100	774.8	775.6	776.5	777.4	778.2	779.1
2200	765.2	766.1	767.0	767.9	768.8	769.7
2300	755.7	756.7	757.6	758.5	759.4	760.4
2400	746.3	747.3	748.3	749.2	750.2	751.1
2500	737.1	738.1	739.1	740.1	741.0	742.0
2600	727.9	728.9	729.9	731.0	732.0	733.0
2700	718.8	719.8	720.9	722.0	723.0	724.1
2800	709.8	710.9	712.0	713.1	714.2	715.2
2900	700.8	702.0	703.1	704.2	705.4	706.5
3000	692.0	693.2	694.4	695.5	696.7	697.8
3100	683.3	684.5	685.7	686.9	688.1	689.3
3200	674.6	675.9	677.1	678.3	679.6	680.8
3300	666.1	667.3	668.6	669.9	671.1	672.4
3400	657.6	658.9	660.2	661.5	662.8	664.1
3500	649.2	650.5	651.9	653.2	654.5	655.8
3600	640.9	642.3	643.6	645.0	646.3	647.7
3700	632.7	634.1	635.5	636.9	638.3	639.6
3800	624.6	626.0	627.4	628.8	630.3	631.7
3900	616.5	618.0	619.4	620.9	622.3	623.8
4000	608.5	610.0	611.5	613.0	614.5	615.9
4100	600.7	602.2	603.7	605.2	606.7	608.2
4200	592.9	594.4	596.0	597.5	599.0	600.6
4300	585.1	586.7	588.3	589.9	591.4	593.0
4400	577.5	579.1	590.7	582.3	583.9	585.5
4500	569.9	571.6	573.2	574.8	576.5	578.1
4600	562.4	564.1	565.8	567.4	569.1	570.7
4700	555.0	556.7	558.4	560.1	561.8	563.4
4800	547.7	549.4	551.1	552.9	554.6	556.2
4900	540.4	542.2	543.9	545.7	457.4	549.1
5000	533.2	535.0	536.8	538.6	540.3	542.1

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB					
	12	13	14	15	16	17
5100	526.1	527.9	529.8	531.6	533.3	535.1
5200	519.1	520.9	522.8	524.6	526.4	528.2
5300	512.1	154.0	515.9	517.7	519.5	521.4
5400	505.2	507.1	509.0	510.9	512.8	514.6
5500	498.4	500.3	502.3	504.2	506.0	507.9
5600	491.7	493.6	495.6	497.5	499.4	501.3
5700	485.0	487.0	488.9	490.9	492.8	494.7
5800	478.4	480.4	482.4	484.3	486.3	488.3
5900	471.8	473.8	475.9	477.9	479.9	481.8
6000	465.3	467.4	469.4	471.5	473.5	475.5
6100	458.9	461.0	463.1	465.1	467.2	469.2
6200	452.6	454.7	456.8	458.9	460.9	463.0
6300	446.3	448.4	450.6	452.7	454.7	456.8
6400	440.1	442.2	444.4	446.5	448.6	450.7
6500	433.9	436.1	438.3	440.4	442.6	444.7
6600	427.9	430.1	432.3	434.4	436.6	438.7
6700	421.8	424.1	426.3	428.5	430.7	432.8
6800	415.9	418.1	420.4	422.6	424.8	427.0
6900	410.0	412.3	414.5	416.8	419.0	421.2
7000	404.2	406.4	408.7	411.0	413.2	415.5
7100	398.4	400.7	403.0	405.3	407.6	409.8
7200	392.7	395.0	397.3	399.6	401.9	404.2
7300	387.0	389.4	391.7	394.1	396.4	398.7
7400	381.4	383.8	386.2	388.5	390.9	393.2
7500	375.9	378.3	380.7	383.1	385.4	387.8
7600	370.4	372.8	375.2	377.6	380.0	382.4
7700	365.0	367.5	369.9	372.3	374.7	377.1
7800	359.7	362.1	364.6	367.0	369.4	371.8
7900	354.4	356.8	359.3	361.7	364.2	366.6
8000	349.1	351.6	354.1	356.6	359.0	361.4
8100	343.9	346.4	348.9	351.4	353.9	356.4
8200	338.8	341.3	343.8	346.3	348.8	351.3
8300	333.7	336.3	338.8	341.3	343.8	346.3
8400	328.7	331.3	333.8	336.3	338.9	341.4
8500	323.8	326.3	328.9	331.4	334.0	336.5
8600	318.9	321.4	324.0	326.6	329.1	331.7
8700	314.0	316.6	319.2	321.7	324.3	326.9
8800	309.2	311.8	314.4	317.0	319.6	322.2
8900	304.5	307.1	309.7	312.3	314.9	317.5
9000	299.8	302.4	305.0	307.6	310.2	312.8
9100	295.1	297.7	300.4	303.0	305.6	308.3
9200	290.5	293.2	295.8	298.5	301.1	303.7
9300	286.0	288.6	291.3	293.9	296.6	299.3
9400	281.5	284.2	286.8	289.5	292.2	294.8
9500	277.1	279.7	282.4	285.1	287.8	290.4
9600	272.7	275.3	278.0	280.7	283.4	286.1
9700	268.3	271.0	273.7	276.4	279.1	281.8
9800	264.1	266.7	269.4	272.1	274.9	277.6
9900	259.8	262.5	265.2	267.9	270.6	273.4
10000	255.6	258.3	261.0	263.8	266.5	269.2

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB					
	18	19	20	21	22	23
100	988.4	988.5	998.5	988.6	988.6	988.7
200	977.0	977.1	977.2	977.3	977.3	977.4
300	965.6	965.8	965.9	966.1	966.2	966.3
400	954.4	954.6	954.8	955.0	955.1	955.3
500	943.3	943.5	943.8	944.0	944.2	944.4
600	932.3	932.6	932.8	933.1	933.4	933.6
700	921.4	921.7	922.0	922.3	922.6	922.9
800	910.6	911.0	911.3	911.7	912.0	912.4
900	900.0	900.3	900.7	901.1	901.5	901.9
1000	889.4	889.8	890.2	890.7	891.1	891.5
1100	878.9	879.4	879.9	880.3	880.8	881.3
1200	868.6	869.1	869.6	870.1	870.6	871.1
1300	858.3	858.9	859.4	859.9	860.5	861.0
1400	848.2	848.7	849.3	849.9	850.5	851.1
1500	838.1	838.7	839.4	840.0	840.6	841.2
1600	828.2	828.8	829.5	830.1	830.8	831.5
1700	818.3	819.0	819.7	820.4	821.1	821.8
1800	808.6	809.3	810.0	810.8	811.5	812.2
1900	798.9	799.7	800.4	801.2	802.0	802.7
2000	789.4	790.2	791.0	791.8	792.6	793.4
2100	779.9	780.7	781.6	782.4	783.3	784.1
2200	770.5	771.4	772.3	773.2	774.0	774.9
2300	761.3	762.2	763.1	764.0	764.9	765.8
2400	752.1	753.0	754.0	754.9	755.9	756.8
2500	743.0	744.0	745.0	745.9	746.9	747.9
2600	734.0	735.0	736.0	737.1	738.1	739.1
2700	725.1	726.2	727.2	728.3	729.3	730.3
2800	716.3	717.4	718.5	719.5	720.6	721.7
2900	707.6	708.7	709.8	710.9	712.0	713.1
3000	699.0	700.1	701.3	702.4	703.5	704.6
3100	690.4	691.6	692.8	693.9	695.1	696.3
3200	682.0	683.2	284.4	685.6	686.8	687.9
3300	673.6	674.8	676.1	677.3	678.5	679.7
3400	665.3	666.6	667.9	669.1	670.4	671.6
3500	657.1	658.4	659.7	661.0	662.3	663.5
3600	649.0	650.3	651.7	653.0	654.3	655.6
3700	641.0	642.3	643.7	645.0	646.4	647.7
3800	633.0	634.4	635.8	637.2	638.5	639.9
3900	625.2	626.6	628.0	629.4	630.8	632.2
4000	617.4	618.8	620.3	621.7	623.1	624.5
4100	609.7	611.2	612.6	614.1	615.5	616.9
4200	602.1	603.6	605.0	606.5	608.0	609.5
4300	594.5	596.0	597.6	559.1	600.6	602.0
4400	587.0	588.6	590.1	591.7	593.2	594.7
4500	579.6	581.2	582.8	584.4	585.9	587.4
4600	572.3	573.9	575.5	577.1	578.7	580.2
4700	565.1	566.7	568.3	569.9	571.5	573.1
4800	557.9	559.6	561.2	562.9	564.5	566.1
4900	550.8	552.5	554.2	555.8	557.5	559.1
5000	543.8	545.5	547.2	548.9	550.6	552.2

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB					
	18	19	20	21	22	23
5100	536.9	538.6	540.3	542.0	543.7	545.4
5200	530.0	531.7	533.5	535.2	536.9	538.7
5300	523.2	525.0	526.7	528.5	530.2	532.0
5400	516.4	518.2	520.0	521.8	523.6	525.4
5500	509.8	511.6	513.4	515.2	517.0	518.8
5600	503.2	505.0	506.9	508.7	510.5	512.3
5700	496.6	498.5	500.4	502.3	504.1	505.9
5800	490.2	492.1	494.0	495.9	497.7	499.6
5900	483.8	485.7	487.6	489.5	491.4	493.3
6000	477.5	479.4	481.4	483.3	485.2	487.1
6100	471.2	473.2	475.2	477.1	479.0	480.9
6200	465.0	467.0	469.0	471.0	472.9	474.8
6300	458.9	460.9	462.9	464.9	466.9	468.8
6400	452.8	454.9	456.9	458.9	460.9	462.9
6500	446.8	448.9	450.9	453.0	455.0	457.0
6600	440.9	443.0	445.0	447.1	449.1	451.1
6700	435.0	437.1	439.2	441.3	443.3	445.4
6800	429.2	431.3	433.4	435.5	437.6	439.7
6900	423.4	425.6	427.7	429.8	431.9	434.0
7000	417.7	419.9	422.1	424.2	426.3	428.4
7100	412.1	414.3	416.5	418.6	420.8	422.9
7200	406.5	408.7	410.9	413.1	415.3	417.4
7300	400.9	403.2	405.4	407.6	409.8	412.0
7400	395.5	397.8	400.0	402.2	404.4	406.6
7500	390.1	392.4	394.6	396.9	399.1	401.3
7600	384.7	387.0	389.3	391.6	393.8	396.0
7700	379.4	381.8	384.1	386.4	388.6	390.8
7800	374.2	376.5	378.9	381.2	383.5	385.7
7900	369.0	371.4	373.7	376.1	378.4	380.6
8000	363.9	366.3	368.6	371.0	373.3	375.6
8100	358.8	361.2	363.6	366.0	368.3	370.6
8200	353.8	356.2	358.6	361.0	363.4	365.7
8300	348.8	351.3	353.7	356.1	358.5	360.8
8400	343.9	346.4	348.8	351.2	353.6	356.0
8500	339.0	341.5	344.0	346.4	348.8	351.2
8600	334.2	336.7	339.2	341.7	344.1	346.5
8700	329.4	332.0	334.5	336.9	339.4	341.8
8800	324.7	327.3	329.8	332.3	334.7	337.2
8900	320.1	322.6	325.2	327.7	330.1	332.6
9000	315.4	318.0	320.6	323.1	325.6	328.1
9100	310.9	313.5	316.0	318.6	321.1	323.6
9200	306.4	309.0	311.6	314.1	316.7	319.1
9300	301.9	304.5	307.1	309.7	312.2	314.8
9400	297.5	300.1	302.7	305.3	307.9	310.4
9500	293.1	295.8	298.4	301.0	303.6	306.1
9600	288.8	291.4	294.1	296.7	299.3	301.9
9700	284.5	287.2	289.8	292.5	295.1	297.7
9800	280.3	283.0	285.6	288.3	290.9	293.5
9900	276.1	278.8	281.5	284.1	286.8	289.4
10000	271.9	274.7	277.4	280.0	282.7	285.3

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	24	25	26	27	28	29	30
100	988.7	988.8	988.8	988.8	988.9	988.9	988.9
200	977.5	977.6	977.7	977.8	977.9	978.0	978.1
300	966.5	966.6	966.7	966.9	967.0	967.1	967.2
400	955.5	955.7	955.9	956.0	956.2	956.4	956.6
500	944.6	944.9	945.1	945.3	945.5	945.8	946.0
600	933.9	934.2	934.4	934.7	935.0	935.2	935.4
700	923.3	923.6	923.9	924.2	924.5	924.8	925.1
800	912.7	913.1	913.4	913.8	914.1	914.5	914.8
900	902.3	902.7	903.1	903.5	903.8	904.2	904.5
1000	892.0	892.4	892.8	893.2	893.7	894.1	894.5
1100	881.7	882.2	882.7	883.1	883.6	884.1	884.6
1200	871.6	872.1	872.6	873.1	873.6	874.1	874.6
1300	861.6	862.1	862.7	863.2	863.8	864.3	864.8
1400	851.7	852.2	852.8	853.4	854.0	854.6	855.2
1500	841.8	842.5	843.1	843.7	844.3	844.9	845.5
1600	832.1	832.8	833.4	834.1	834.7	835.4	836.1
1700	822.5	823.2	823.9	824.6	825.3	826.0	826.7
1800	812.9	813.7	814.4	815.1	815.9	816.6	817.3
1900	803.5	804.3	805.0	805.8	806.6	807.3	808.1
2000	794.2	795.0	795.8	796.6	797.4	798.2	799.0
2100	784.9	785.8	786.6	787.4	788.2	789.1	790.0
2200	775.8	776.6	777.5	778.4	779.2	780.1	781.0
2300	766.7	767.6	768.5	769.4	770.3	771.2	772.1
2400	757.7	758.7	759.6	760.5	761.5	762.4	763.3
2500	748.8	749.8	750.8	751.7	752.7	753.7	754.7
2600	740.0	741.0	742.0	743.0	744.0	745.0	746.0
2700	731.3	732.4	733.4	734.4	735.5	736.5	737.6
2800	722.7	723.8	724.8	725.9	727.0	728.0	729.0
2900	714.2	715.3	716.4	717.5	718.5	719.6	720.7
3000	705.8	706.9	708.0	709.1	710.2	711.3	712.4
3100	697.4	698.6	699.7	700.8	702.0	703.1	704.2
3200	689.1	690.3	691.5	692.7	693.8	695.0	696.2
3300	680.9	682.1	683.4	684.6	685.8	687.0	688.2
3400	672.8	674.1	675.3	676.5	677.8	679.0	680.2
3500	664.8	666.1	667.3	668.6	669.8	671.1	672.4
3600	656.9	658.2	659.5	660.7	662.0	663.3	664.6
3700	649.0	650.3	651.6	653.0	654.3	655.6	656.9
3800	641.2	642.6	643.9	645.3	646.6	647.9	649.1
3900	633.5	634.9	636.3	637.6	639.0	640.3	641.7
4000	625.9	627.3	628.7	630.1	631.5	632.9	634.3
4100	618.4	619.8	621.2	622.6	624.0	625.4	626.8
4200	610.9	612.4	613.8	615.2	616.7	618.1	619.5
4300	603.5	605.0	606.5	607.9	609.4	610.8	612.2
4400	596.2	597.7	599.2	600.7	602.2	603.6	605.1
4500	589.0	590.5	592.0	593.5	595.0	596.5	598.0
4600	581.8	583.4	584.9	586.4	587.9	589.5	591.1
4700	574.7	576.3	577.8	579.4	580.9	582.5	584.1
4800	567.7	569.3	570.9	572.5	574.0	575.6	577.2
4900	560.8	562.4	564.0	565.6	567.2	568.8	570.4
5000	553.9	555.5	557.1	558.8	560.4	562.0	563.6

PRESSURE (MB) AS A FUNCTION OF HEIGHT (METERS) ABOVE 1000-MB SURFACE,
AS A FUNCTION OF THE 1000-MB TEMPERATURE (C),
IN A SATURATED ATMOSPHERE WITH A PSEUDOADIABATIC LAPSE RATE

HEIGHT (METERS)	TEMPERATURE (C) AT 1000 MB						
	24	25	26	27	28	29	30
5100	547.1	548.7	550.4	552.0	553.7	555.3	556.9
5200	540.3	542.0	543.7	545.4	547.0	548.7	550.4
5300	533.7	535.4	537.1	538.8	540.4	542.1	543.8
5400	527.1	528.8	530.5	532.2	533.9	535.6	537.3
5500	520.6	522.3	524.1	525.8	527.5	529.2	531.9
5600	514.1	515.9	517.6	519.4	521.1	522.9	524.7
5700	507.7	509.5	511.3	513.1	514.8	516.6	518.4
5800	501.4	503.2	505.0	506.8	508.6	510.3	512.1
5900	495.1	497.0	498.8	500.6	502.4	504.2	506.0
6000	489.0	490.8	492.6	494.5	496.3	498.1	499.9
6100	482.8	484.7	486.6	488.4	490.2	492.0	493.8
6200	476.8	478.7	480.5	482.4	484.2	486.1	488.0
6300	470.8	472.7	474.6	476.4	478.3	480.2	482.1
6400	464.8	466.8	468.7	470.6	472.5	474.3	476.2
6500	458.9	460.9	462.8	464.7	466.6	468.5	470.4
6600	453.1	455.1	457.1	459.0	460.9	462.8	464.7
6700	447.4	449.4	451.3	453.3	455.2	457.1	459.0
6800	441.7	443.7	445.7	447.6	449.6	451.5	453.4
6900	436.0	438.1	440.1	442.1	444.0	446.0	448.0
7000	430.5	432.5	434.5	436.5	438.5	440.5	442.5
7100	425.0	427.0	429.1	431.1	433.1	435.1	437.1
7200	419.5	421.6	423.6	425.7	427.7	429.7	431.7
7300	414.1	416.2	418.3	420.3	422.4	424.4	426.4
7400	408.7	410.9	413.0	415.0	417.1	419.1	421.1
7500	403.5	405.6	407.7	409.8	411.9	414.0	415.9
7600	398.2	400.4	402.5	404.6	406.7	408.7	410.7
7700	393.0	395.2	397.4	399.5	401.6	403.6	405.6
7800	387.9	390.1	392.3	394.4	396.5	398.6	400.6
7900	382.9	385.1	387.2	389.4	391.5	393.6	395.7
8000	377.8	380.1	382.3	384.4	386.6	388.7	390.8
8100	372.9	375.1	377.3	379.5	381.7	383.8	385.9
8200	368.0	370.2	372.4	374.6	376.8	378.9	381.0
8300	363.1	365.4	367.6	369.8	372.0	374.2	376.4
8400	358.3	360.6	362.8	365.1	367.3	369.4	371.6
8500	353.5	355.8	358.1	360.4	362.6	364.7	366.9
8600	348.8	351.1	353.4	355.7	357.9	360.1	362.3
8700	344.2	346.5	348.8	351.1	353.3	355.5	357.7
8800	339.6	341.9	344.2	346.5	348.8	351.0	353.2
8900	335.0	337.4	339.7	342.0	344.3	346.5	348.7
9000	330.5	332.9	335.2	337.5	339.8	342.1	344.4
9100	326.0	328.4	330.8	333.1	335.4	337.7	340.0
9200	321.6	324.0	326.4	328.7	331.0	333.3	335.6
9300	317.2	319.7	322.1	324.4	326.7	329.0	331.3
9400	312.9	315.4	317.8	320.1	322.5	324.8	327.1
9500	308.6	311.1	313.5	315.9	318.2	320.5	322.8
9600	394.4	306.9	309.3	311.7	314.1	316.4	318.7
9700	300.2	302.7	305.2	307.6	309.9	312.3	314.7
9800	296.1	298.6	301.0	303.5	305.8	308.2	310.6
9900	292.0	294.5	297.0	299.4	301.8	304.2	306.6
10000	287.9	290.4	292.9	295.4	297.8	300.2	302.6